

## Tilesets

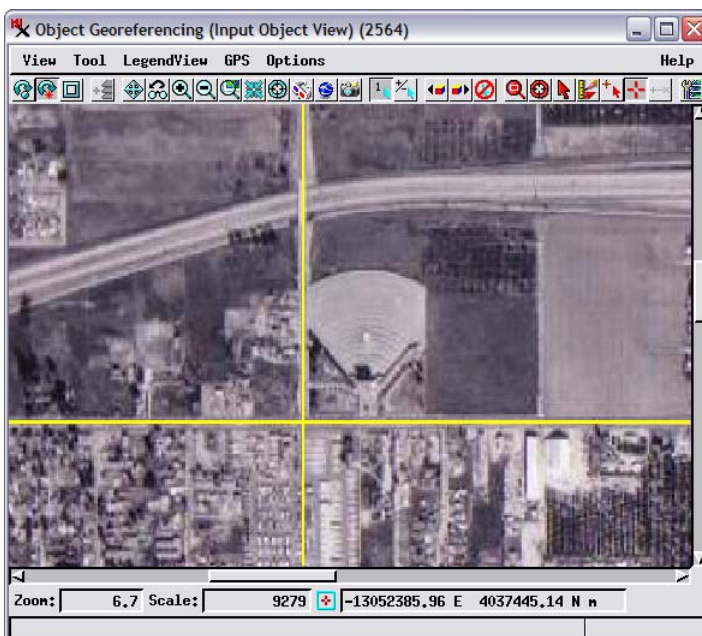
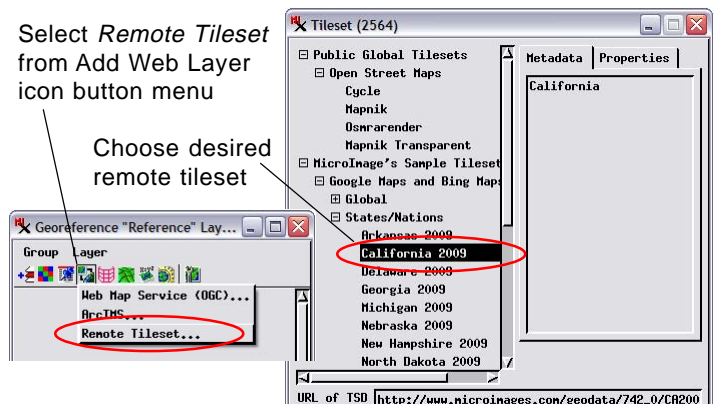
# Georeferencing in the Range .5 to 10 meters

Georeferencing spatial data is a common application of TNTmips. This often requires adding control points to your maps, images, diagrams, or other project materials. It also requires that coordinates in an earth-related coordinate reference system are available for features in these materials. The source of these map coordinates can be a map, orthoimage, or other geospatial data that covers the area of your new materials at an appropriate scale and accuracy.

MicroImages provides free access to 1-meter color orthoimagery of the conterminous United States via the Internet. Your TNT product provides direct, fast access to this new 2009 or 2008 color USDA / NAIP imagery for use in georeferencing your spatial materials of 1- to 20-meter resolution. These state tilesets provide a direct means of collocating the control points to be transferred from these high-resolution orthoimages to your materials.

If your project area is not covered in this imagery, you can easily assemble your own reference tilesets in TNTmips using any georeferenced maps and imagery of your city, province, or nation. These tilesets can then be used in your TNTmips via your local network or via a web site.

For example, very high resolution (10 to 100 centimeter) orthoimagery is available for many US cities (see list of coverage areas at <http://seamless.usgs.gov/products/listofortho.php>). These images can be downloaded from <http://seamless.usgs.gov>, assembled into a tileset, and used in TNTmips to georeference your sub-meter resolution imagery, local maps, or engineering drawings.



Georeferencing a historical black-and-white aerial photograph of Loma Linda California acquired in 1967 (shown above left) using as a reference image the 2009 California natural-color 1-meter orthoimage tileset hosted at MicroImages (above right). In the Georeference process be sure to choose an appropriate model for computing residuals; the Plane Projective model was used here to account for distortions due to camera tilt. Add any of the MicroImages' state orthoimage tilesets to the reference view by selecting the Remote Tileset option on the Add Web Layer icon button's menu, then choose the desired tileset from the Tileset window (top).